

a grain moisture analyzer assembly mounted ex-situ on said external wall of said combine; and

means for bypassing a portion of the grain passing through said moving means through said grain moisture analyzer [...] including an inlet opening and an outlet opening formed in said external wall of said combine for supplying and exhausting grain to and from said grain moisture analyzer;

a sensing cell for measuring grain moisture; and

feed means for moving the grain from said sensing cell to said outlet opening formed in said external wall for returning said portion of grain back into a normal flow of moving grain within the combine thresher.

4. (Amended) A combine as set forth in claim [3]_1 including means for determining the grain moisture content when said sensing cell is filled with grain and establishing a control signal indicative thereof.

7 9. (Amended) A continuous grain moisture analyzer assembly suitable for ex-situ mounting on an external surface of a combine harvester providing access to grain therein comprising:

a sensing cell for measuring the moisture of grain filling said cell;

detector means for sensing the full condition of said sensing cell and establishing a control signal indicative thereof; [and]

flow means for moving grain from said sensing cell in response to the control signal from said detector means [.] ; and

wherein said sensing cell includes an impedance cell having a plurality of plates to increase the measuring sensitivity of the moisture analyzer and with the external two plates being ground plates to reduce EMI and RFI interference thereby.

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42. (Amended) A grain analyzer as set forth in claim 41 wherein said operator interface module includes a first microprocessor connected to said [cell dual] detector means to actuate said flow means in response to said control signal from said detector means.

16. (Amended) A method of providing continuous grain moisture readings of the grain being harvested to a combine harvester operator comprising the steps of:

passing a portion of the grain being harvested from the combine to a moisture analyzer sensing cell mounted ex-situ of the combine;

filling said sensing cell with passed grain; [and]

actuating the passing of the grain from the sensor cell back to the combine to provide a continuous bypass of grain from the combine through the sensor cell and continuous moisture measurement thereby[.]; and

automatically setting the frequency of the cell voltage to an optimum frequency for detecting the broadest range of moisture sensed by the cell.

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17. (Amended) A method as set forth in claim 16 including the further calculating step of averaging of continuous grain moisture measurements over an operator determined period.

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24. (Amended) A grain moisture analyzing assembly as set forth in claim [23]-9 wherein said plurality of plates is five plates with two central readout plates and three ground plates forming four separate measuring chambers.

Claim 30, line 1 change "29" to ----- 16 -----.

can be waived

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09 11.12 → Claim 32, line 2 after "frequency" insert ----- f^* via the known standard relationship $f^* = 1/t$ -----.

Add new claims 33 and 34 as follows:

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33. A continuous grain moisture analyzer assembly suitable for ex-situ mounting on an external surface of a combine harvester providing access to grain therein comprising;

a sensing cell for measuring the moisture of grain filling said cell;
detector means for sensing the full condition of said sensing cell and establishing a control signal indicative thereof;
flow means for moving grain from said sensing cell in response to the control signal from said detector means; and
an operator interface module for controlling said analyzer assembly in response to operator inputs and control signals from said analyzer assembly.

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34. A method of providing continuous grain moisture readings of the grain being harvested to a combine harvester operator comprising the steps of;

passing a portion of the grain being harvested from the combine to a moisture analyzer sensing cell mounted ex-situ of the combine;
filling said sensing cell with the passed grain;
actuating the passing of the grain from the sensor cell back to the combine to provide a continuous bypass of grain from the combine through the sensor cell and continuous moist measurement thereby; and
passing the portion of the grain to a sensing cell formed from an impedance moisture measuring cell having a plurality of plates for increased measurement sensitivity.

REMARKS